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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/572,806	10/05/2006	Ludwig Schwoerer	4208-4310	9554

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Locke Lord Bissell & Liddell LLP
Attn: IP Docketing
Three World Financial Center
New York, NY 10281-2101

EXAMINER

CORRIELUS, JEAN B

ART UNIT	PAPER NUMBER
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2611

NOTIFICATION DATE	DELIVERY MODE
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04/28/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ptopatentcommunication@lockelord.com

Office Action Summary

Application No.

10/572,806

Applicant(s)

SCHWOERER ET AL.

Examiner

Jean B. Corrielus

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period **will** apply and **will** expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply **will**, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 March 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 3/21/06 and 2/15/07.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. Applicant is required to file a copy of the document incorporated by reference at page 2, lines 12-13 and page 10, lines 16-18. See MPEP 37 CFR 1.57 (e), reproduced as follow for ease of convenience:

- (e) The examiner may require the applicant to supply a copy of the material incorporated by reference. If the Office requires the applicant to supply a copy of material incorporated by reference, the material must be accompanied by a statement that the copy supplied consists of the same material incorporated by reference in the referencing application.

2. The disclosure is objected to because of the following informalities: page 2, line 13, "as a" should be replaced by "by". Similar comment applies to page 10, line 18.

The specification at page 13, lines 4-5 recites "Cocentric System Studio". However, it is unclear as to what applicant refers to as "Cocentric System Studio". Appropriate correction is required.

Drawings

3. The drawings are objected to as follow: Please use descriptive language to identify each element in the drawing(s). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be

removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claims 6, 8-13, 15, 16 and 18-20 are objected to because of the following informalities: claim 6 recites a "fourth symbol", there is no limitation to "third symbol". Claim 8, "used mode of the transmission" should be replaced by a more improved and equivalent limitation. Please define "Pmax" as recited in the claim. Similar comment applies similarly to claims 9-12, respectively. Claim 13, the closed parenthesis (both occurrences) preceding "p" does seem to be appropriate. Claim 15 what does it mean by "based power saving based on bursts" recited in the claim? Claim 16, expand "DVD" and "OFDM". Claim 18, before "Fast", "a" should be deleted; line 6, before "delay", "a" should be deleted; line 10, "before "correlator", "a" should be deleted. Note that any claim whose base claim is objected is likewise objected. Appropriate correction is required.

Examiner's comment: RE: Means Plus Function limitations

5. The various means plus function limitations recited in claim 18-20 do not invoke the 112 sixth paragraph because the claim elements contain sufficient structural limitations for performing the function(s). The means plus function limitations recited in claim 17 are treating under 112 six paragraph.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The specification fails to identify the structure corresponding to the means plus function limitation recited in claim 17.

Claim Rejections - 35 USC § 101

8. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9. Claims 1-16 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent¹ and recent Federal Circuit decisions² indicate that a statutory “process” under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying

¹ *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

² *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

subject matter (such as an article or material) to a different state or thing. While the instant claim recites a series of steps or acts to be performed, the claim neither transforms underlying subject matter nor is positively tied to another statutory category that accomplishes the claimed method steps, and therefore does not qualify as a statutory process. For example the method including steps of accessing, correlating and determining is of sufficient breadth that it would be reasonably interpreted as a series of steps completely performed mentally, verbally or without a machine. The claim fails to recite any corresponding hardware in combination with the method step(s) so as to effectively tie the process claim with a statutory class of invention, i.e. a specific apparatus.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1-7 and 14-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Seo Jae-Hyun et al European Patent Application Publication EP 1 195 961 A2.

As per claim 1, Seo Jae-Hyun teaches a method comprising: providing a first symbol to a correlator 413 and a second symbol to delay 411 (accessing at least two symbols which are adapted to establish a correspondence pattern for pilot carriers in a matrix of the at least two symbols) note fig. 3 and fig. 4, output of transformer 223,

correlating carriers of the first symbol with the corresponding carriers of the second symbol within the matrix, note correlation processing performs by 413 and determining a correlation maximum indicating a pilot carrier position note output of detector 415 and page 4, last two lines.

As per claim 2, the accessed symbols are inherently selected so that the correspondence pattern is adapted to be established between pilot carriers of the symbols for certain carrier positions within the matrix of the symbols because the selection performed by the reference and the disclosed embodiment is similar.

As per claim 3, the step of accessing comprises: receiving the first symbol of the transmission note input to delay 4112, delaying the first symbol in relation to the second symbol note delay 411, wherein the symbols are adapted to establish the correspondence pattern for pilot carriers in the matrix of the two symbols note fig. 3 and output of device 415.

As per claim 4, the accessed symbols comprise currently received symbol (note input to delay 411) and certain predetermined another symbol following the currently received symbol note the second signal provided to the correlator 413.

As per claim 5, see rejection of claims 3 and 4.

As per claim 6, note that the signal includes a fourth symbol that is received subsequent to the currently received symbol note fig. 3 and inputs to correlator 413.

As per claim 7, The applied reference teaches" performing a first correlation between first possible pilot carrier positions of the first symbol and first possible pilot carrier positions of the second symbol, performing a second correlation between second

possible pilot carrier positions of the first symbol and second possible pilot carrier positions of the second symbol, performing a third correlation between third possible pilot carrier positions of the first symbol and third possible pilot carrier positions of the second symbol, performing a fourth correlation between fourth possible pilot carrier positions of the first symbol and fourth possible pilot carrier positions of the second symbol," note paragraph 0029 and output of correlator 413 where a correlation calculated for each n; detecting the correlation maximum magnitude from the first, second, third, and fourth correlations for indicating the current scattered pilot raster position note output of 415 and paragraphs 0029-0030.

As per claim 14, the signal is an OFDM signal having OFDM symbols and pilot symbols see fig. 3.

As per claim 15, the multi carrier transmission comprising time slicing based power saving and a sync of the receiver into the burst is adapted to be based on the indicated pilot position for finding index of the received symbols note fig. 3 and fig. 4.

As per claim 16, the multi carrier transmission comprising DVD transmission using time slicing based on bursts and sync of the receiver into the burst is adapted to be based on the indicated pilot position for finding index of the received symbols note fig. 3 and fig. 4., paragraph 0002.

As per claim 17, note rejection of claim 1. In addition, the means for accessing corresponds to 223 and 411; and the means for correlating corresponds to 413.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 8-13 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seo Jae-Hyun et al European Patent Application Publication EP 1 195 961 A2.

As per claim 8, as applied to claim 1 above, Seo Jae-Hyun et al teaches every feature of the claimed invention but does not specifically teach the equation recited in claim 8 to calculate the first correlation. However, such limitation does not include any inventive step. One skill in the art would have been motivated to create a formula to determine such a correlation value so that such value can be compared with measured value(s) for monitoring purposes.

With respect to claims 9-13, see claim 8, respectively.

As per claim 18, the applied reference teaches a Fast Fourier Transform (FFT) means for FFT 223 transformation of the received transmission for obtaining at least two symbols of the transmission, a delay means 411 for delaying an obtained first symbol to obtain another symbol, wherein a matrix, comprising the symbols and their respective carriers, is adapted to establish a correspondence pattern for pilot carriers of the first symbol with pilot carriers of the another symbol within the matrix, a correlator means 413 for correlating carriers of the symbol with the corresponding carriers of the

another symbol within the matrix, means for detecting 415 a correlation maximum from the correlation results for indicating a pilot carrier position. However, Seo Jae-Hyun et al fail to teach an accumulator is used to accumulate the correlation results prior to being provided to the detector. However, it is well known in the art to combine a correlator output prior to being provided to a detector. Given that fact, it would have been obvious to one skill in the art to have modified the applied reference to include an accumulator after the correlator in order to facilitate operation of the detector.

As per claim 19, the same computational resources is used for correlator means and means for detecting and post FFT acquisition in the receiver note fig. 4.

As per claim 20, a buffer means is encompassed by a delay means, the correlator means and the means for detecting the maximum correlation see fig. 4.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean B. Corrielus whose telephone number is 571-272-3020. The examiner can normally be reached on Monday-Thursday from 9:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jean B Corrielus/
Primary Examiner
Art Unit 2611